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Formulation and Evaluation of Multipurpose Herbal Cream

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ABSTRACT

Herbal cosmetics are the preparations used to improve the individual appearance. The aim of the present study was to prepare the herbal cream for the use of moistening, nourishing and cure of various disease of the skin. Different crude drugs like *Aloe barbadensis* (Aloe Vera leaves), *Azadirachta indica* (Neem-leaves), *Curcuma longa* (Turmeric-rhizomes) and *Emblica officinali* (Amla) are used to formulate the cream. The selection of ingredients based on the different medicinal properties of the agents. The cream is subjected to various evaluation parameters.

Keywords: Cosmetics, herbal cream, Turmeric, Neem, Aloe Vera

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INTRODUCTION

Now a days the demand of herbal cosmetics are increasing day by day. Herbal formulations are receiving more concentration in public because of their high-quality properties and less side effects. Additionally, it also provides the skin with necessary nutrients.[1] The poly herbal cosmetic formulations are receiving recognition all over the world, as they give the enhanced feeling of purity, protection and effectiveness. A large quantity of creams is existing in the market under the make of natural, protected, organic, and herbal. Most of the creams at present existing in the bazaar use the synthetic polymers, emulsifiers, perfuming agents, pigments, surfactants and thickeners to form the base. There is wide need to substitute toxic synthetic agent from base using natural agents.[2] The natural ingredients chosen for preparation of herbal cream are Neem, Turmeric, Aloe-vera and Amla. The choice of these ingredients is based on their individual properties. Aloe-vera is used as a moisturizer and anti-acne agent. Aloe creams have a soothing effect on the skin and have been shown to aid decrease skin complaints and irritation.[3]

Turmeric is an Asian cosmetic useful to impart a golden radiance to the complexion. It also provides anti-inflammatory and antiseptic properties.[4] Neem is helpful against a wide range of skin diseases including eczema, psoriasis, dry skin, wrinkles and rashes.[5]

MATERIALS AND METHODS

Materials:

The plant materials like Neem, Turmeric, Aloe-Vera and Amla powder were procured from a local authentic herbal distributor of Dehradun, Uttarakhand. All other chemicals were purchased from Central Drug House Ltd., New Delhi.

Methodology:

The cream was prepared by melting beeswax and stearic acid on a water bath. Add liquid paraffin and heat the mixture to 70^0C. Add Aloe-Vera, Turmeric, Neem, powder and Amla in it with continuous stirring. Cool the mixture with stirring to 40 °C.[6]

Table 1: Composition for Herbal Cream (gm)

Ingredients	Formulation			
(%)	F1	F2	F3	F4
Turmeric	0.2	0.2	0.5	0.5
Neem	0.5	1	1	0.5
Aloe vera	1	2	1	2
Amla	0.5	1	0.5	1
Beeswax	2	2	2	2
Liquid Parafin	0.5	1	1.5	2
Stearic Acid	1	1.5	1	1.5

Evaluation parameters of herbal cream

1. pH test:

The pH meter was calibrated using standard buffer solution. About 0.5g of the cream was weighed and dissolved in 50.0 ml of distilled water and its pH was measured.[7]

2. Color and odor:

Physical parameters like color and odor were examined by visual examination.

3. Homogenity:

The formulations were tested for the homogeneity by visual appearance and by touch.[8]

4. Type of emulsion under dye test:

The scarlet red dye is mixed with the cream. A drop of the cream was sited on a microscopic slide, then it was enclosed with a cover slip and examined under a microscope. If the disperse globules appear red and the ground is colorless, the cream is O/W type. The reverse condition occurs in W/O type cream i.e. the disperse globules appear colorless in the red ground.[9]

5. Viscosity:

Viscosity measurements of the formulations were determined using rotational-type viscometer (Brookfield DVII, Germany TA spindle, 25±1°C). Measurements were taken in 3 replications in 100 rpm (n: 3). Viscosity values were recorded in centipoise (cP). [10]

6. Type of smear:

After application of cream, the type of film or smear formed on the skin was checked.[11]

7. Irritancy test:

Mark an area (1sq.cm) on the left hand dorsal surface. The cream was applied to the specified area and time was noted. Irritancy, erythema, edema, was checked if any for regular intervals up to 24 hrs and reported. [11]

8. Accelerated stability testing:

Accelerated stability testing of prepared formulations was conducted for 2 most stable formulations at room temperature, studied for 7 days. They were formulation number 3 and 4 at 40°C ± 1°C for 20 days. The formulations were kept both at room and elevated temperature and observed on 0th, 5th, 10th, 15th and 20 th day for the different parameters[11].

RESULTS AND DISCUSSION

1. pH test: The pH of the cream was found to be in range of 6-7 which is excellent for skin pH . All the formulations were revealed pH nearer to skin required.

2. Color and Odor: The color of the cream was found to be slight yellow in color due to the existence of turmeric in it. The odor was not found to be obnoxious.

3. Homogeneity: The cream was found to be homogenous. Any sign of heterogeneity was not found.

4. Type of emulsion: The prepared cream was O/W type emulsion, hence can be with no trouble washed with plane water which gives better customer compliance.

5. Viscosity: The viscosity determinations were carried out using a Brookfield Viscometer (DV II+ Pro model) using spindle number S- 64 at a 20 rpm at a temperature of 25° C. The determinations were carried out in triplicate and the average of three readings was recorded. The viscosity was found in the range of 1256 to 3256.

6. Type of Smear: After application of cream, the type of smear formed on the skin were non- greasy.

7. Irritancy: The formulations show no redness, edema, inflammation and irritation during irritancy studies.

8. Accelerated stability testing: There is no change in the properties of the prepared formulations F3 and F4. The results are shown in Table 3.

Table 2: Evaluation Parameters of Herbal Cream

Formulation	pH	Color	Homogenity	Viscosity	Type of Emulsion	Type of Smear	Irritancy
F1	6.8	Yellowish	**	1256±0.67	O/W	Non-greasiness	Non-irritant
F2	6.9	Yellowish	**	1459±0.58	O/W	Non-greasiness	Non-irritant
F3	7.2	Yellowish	***	2089±0.89	O/W	Non-greasiness	Non-irritant
F4	7.4	Yellowish	***	3256±1.56	O/W	Non-greasiness	Non-irritant

****= Good, ***=Excellent**

Table 3: Results of Accelerated Stability Studies

Days	Temp	Formulation	pH	Color	Homo-geneity	Viscosity	Type of Emulsion	Type of Smear	Irritancy
0	40 ºC ±1 ºC	F3	7.2	Yellowish	***	2089±0.89	O/W	Non-greasiness	Non-irritant
		F4	7.4	Yellowish	***	3256±1.56	O/W	Non-greasiness	Non-irritant
5	40 ºC ± 1 ºC	F3	7.2	Yellowish	***	2089±0.89	O/W	Non-greasiness	Non-irritant
		F4	7.4	Yellowish	***	3256±1.56	O/W	Non-greasiness	Non-irritant
10	40 ºC ±1 ºC	F3	7.2	Yellowish	***	2089±0.89	O/W	Non-greasiness	Non-irritant
		F4	7.4	Yellowish	***	3256±1.56	O/W	Non-greasiness	Non-irritant
15	40 ºC± 1 ºC	F3	7.2	Yellowish	***	2089±0.89	O/W	Non-greasiness	Non-irritant
		F4	7.4	Yellowish	***	3256±1.56	O/W	Non-greasiness	Non-irritant
20	40 ºC ± 1 ºC	F3	7.2	Yellowish	***	2089±0.89	O/W	Non-greasiness	Non-irritant
		F4	7.2	Yellowish	***	3256±1.56	O/W	Non-greasiness	Non-irritant

CONCLUSION

The prepared herbal cream has best properties and having nutritional values using less chemicals which protects the skin from the various skin problems. Since the cream was prepared by using simple ingredients and simple methods so the cream is also economical. The herbal cosmetic formulation is safe to use and it can be used as the provision of a barrier to protect skin.

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